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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/832,827 | 04/12/2001 | Martin Kowatsch | Q64035 | 1954 |

7590 07/03/2002

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[REDACTED] EXAMINER

PAK, SUNG H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2874 | |

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/832,827 | KOWATSCH, MARTIN |
| | Examiner | Art Unit |
| | Sung H. Pak | 2874 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The information disclosure statement filed 4/12/2001 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. Therefore, the cited references that do not contain English translation or the English statement of relevance have not been considered.

Although the applicant had included a communication from a foreign patent office as the statement of relevance, it is written in a non-English language, and the scope of relevance can not be readily ascertained. A line has been drawn through on the Information Disclosure Statement for the non-English references that have not considered. Please refer to the PTO-1449 included herein.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by

Travieso et al (US 5,943,455).

Travieso et al discloses an optical waveguide structure with all the limitations set forth in the claims, including: a crossing and a branching; a planar waveguide in the area of the branching ("10" in Fig. 2); the planar waveguide comprising a waveguiding material that is put into paths formed in a substrate; the waveguide material having a refractive index higher than the material delimiting the paths so as to form light guiding paths (column 1 lines 16-59, column 3 lines 50-63); optical fibers that cross in the area of crossing (Fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Travieso et al (US 5,943,455) in view of Ehrfeld et al ("Integrated Optics and Micro-Optics with Polymers").

Travieso et al discloses an optical waveguide structure with all the limitations set forth in the claims as discussed above, except it does not explicitly discuss the use of polymer substrate and waveguide material.

Ehrfeld et al, on the other hand, teaches the use of polymer substrate and waveguide material, in which the troughs are stamped on the polymer substrates and the waveguide material is filled in to the troughs to form the waveguiding paths (Fig. 4 and pages 214-215). Such provisions are advantageous because it allows for simple and cost effective manufacturing of planar waveguides, as compared to the production of optical crystals and fabrication of waveguiding paths via photolithographic processes. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Travieso et al device to have polymer substrate and waveguiding material. It would have been desirable to have simple and cost effective planar waveguide device.

Regarding claim 10, Ehrfeld et al does not explicitly teach the use of UV radiation for curing the waveguide material. However, such technique is well known and commonly used in the polymer waveguide art. UV radiation curing is advantageous over the prior art heating method because it allows for selective application of optical energy to only the waveguide portion of the substrate, so as to minimize any potential damage and weakening of the substrate. Therefore, it would have been obvious to a person of ordinary skill in the art to use UV radiation for curing the waveguide material.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Travieso et al (US 5,943,455) in view of Itoh et al (US 6,115,515).

Travieso et al discloses an optical waveguide structure with all the limitations set forth in the claims as discussed above, except it does not teach the use of opto-electrical transducers to connect the waveguide structure to a circuit board.

Itoh et al, on the other hand, explicitly teaches the use of opto-electronic components to couple optical waveguide device to the mounting circuit structure (Fig. 4, column 5 line 32- column 6 line 35). Such arrangement is advantageous in providing compact and efficient coupling between electrical circuit component and optical waveguide communications device. Therefore, it would have been obvious to a person of ordinary skill in the art to modify Travieso et al device to have opto-electronic transducer coupling the waveguide structure to the electronic circuit component. It would have been desirable to have a compact and efficient opto-electric coupling component.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arii et al (US 5,091,986) and Bojarski et al (US 4,878,727) disclose optical waveguide structure coupling optical fibers and planar waveguide substrates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

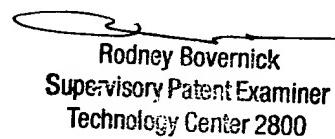
The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Sung H. Pak
Examiner
Art Unit 2874

sp
June 24, 2002



Rodney Bovernick
Supervisory Patent Examiner
Technology Center 2800